DOCUMENT RESUME

ED 056 622 FL 002 735

AUTHOR Sobin, Linda Lee Andrews
TITLE Noun Plural Marker Deletion in the Speech of Black Children.
INSTITUTION Texas Univ., Austin. Center for Communication Research.
PUB DATE Dec 71
NOTE 59p.; Master's thesis, University of Texas at Austin

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Analysis of Variance; Comparative Analysis; Environmental Influences; Imitation; *Language Research; Morphology (Languages); *Negro Dialects; *Nominals; Nonstandard Dialects; Phonology; *Plurals; Semantics; *Sociolinguistics; Standard Spoken Usage; Statistical Analysis; Tables (Data)

ABSTRACT

This study considers the occurrence of noun plural marker deletion in black English. It questions the cause of the phenomenon and investigates four factors which could be involved: presence or absence of a quantifier expression, phonological constraints, age of the speaker, and interaction between quantifier expressions and phonological environment. A sentence imitation test provides the material for consideration of each area. This report describes previous studies and theories concerning the problem. It discusses the subjects, materials, and procedures for the present investigation and analyzes the results and implications. Directions for further study are provided and examples of sentences used in the imitation test are listed. A bibliography is included. (VM)

ED056622

NOUN PLURAL MARKER DELETION IN THE SPEECH OF BLACK CHILDREN

by

LINDA LEE ANDREWS SOBIN, B.A.

THESIS

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF ARTS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

FL002735

THE UNIVERSITY OF TEXAS AT AUSTIN

December, 1971

ACKNOWLEDGMENTS

This research was conducted under partial support of funds from the Center for Communication Research, The University of Texas, Austin, for which the author is grateful. In addition, the author is endebted to Elizabeth Williams who assisted both in obtaining the children used as subjects and in conducting the field work for this study. Special thanks are extended to the children who served as subjects for the study and to the staffs of the schools visited. Without their assistance this study would not have been possible.

Thesis submitted to Committee 18 October 1971

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	iii
LIST OF TABLES	v
CHAPTER	
I. BACKGROUND	1
Literature Describing Noun Plural Marker Deletion in Black English	2
Preliminary Study Investigating Conditions for Noun Plural Marker Deletion in Black English	7
II. PROBLEM AND METHOD	17
Statement of Problem	17
Method	17
Subjects	17
Materials	18
Procedures	23
III. RESULTS AND DISCUSSION	24
Summary	24
Analyses	24
Results	25
Quantifier Condition	25
Phonological Environment	25
Age	28
Quantifier Condition-Phonological Environment Interaction	29
Secondary Analysis of Quantifier Condition	30
Secondary Analysis of Phonological Environment	30
Discussion	35
Directions for Further Study	38
IV. SUMMARY	43
FOOTNOTES	45
APPENDICES	
1. Sentence Exemplars for Pre-Test	46
2. Sentence Exemplars Used in the Sentence Imitation Test	47
3. Example of Tabulation Sheet	51
BIBLIOGRAPHY	52

LIST OF TABLES

Table		Page
1.	Frequency of Noun Plural Marker Presence and Absence by (-1) Phoneme and Results of Chi Square Test in Preliminary Study	12
2.	Frequency of Noun Plural Marker Presence and Absence by (+1) Position and Results of Chi Square Test in Preliminary Study	13
3.	Summary of Detailed Analysis of Phonological Environments of Noun Plural Marker Presence and Absence in Preliminary Study	15
4.	Summary of the Analysis of Variance of the Results	26
5.	Mean Number of Noun Plural Marker Deletions Per 10 Sentences	27
6.	Summary of Percentage of Noun Plural Marker Deletions in Specific (-1) and (+1) Phonological Environments	31

VITA

Linda Lee Sobin was born in Stillwater, Oklahoma, 10 June 1946, the daughter of Mary Lou Andrews and James Clifford Andrews. After completing her work at Parkview High School, Springfield, Missouri, in 1964, she entered the University of Missouri, at Columbia, Missouri. In September 1967 she was married to Nicholas John Sobin. She received the degree of Bachelor of Arts in Instrumental Music (violin) from the University of Missouri at Columbia in June, 1968. During the following year she was employed as a research assistant at the Center for Research in Social Behavior of the University of Missouri at Columbia, and in September, 1968, she entered the Graduate School of the University of Missouri at Columbia, beginning a study of anthropology. In January, 1970, she entered the Graduate School of the University of Texas at Austin.

Permanent address: 926 East Lindberg
Springfield, Missouri 65804

This thesis was typed by Marilyn A. Sandlin.

CHAPTER I

BACKGROUND

Describing the structure of Black English is currently a primary focus of research by many interested in sociolinguistics. The efforts of these social scientists have served to elucidate many distinctive linguistic characteristics of Black English. Many phonological distinctions from Standard American English have been pointed out and various rules accounting for their occurrence have been proposed. Morphological features and syntactic structures have been isolated and at least partially described. The several partial descriptions of Black English structure are in primary agreement as to distinctive linguistic characteristics, but all researchers insist that more complete descriptions await further testing and analysis. Inasmuch as the need for adding Standard English to the linguistic repertoires of Black English speakers seems to be accepted (Loban 1968, Kochman 1969, Baratz 1970a), and the use of a modified foreign language methodology to do so seems to be the format most successful (Stewart 1964, Feigenbaum 1969, Baratz and Shuy 1969), it seems both appropriate and important to devise tests that adequately analyze the distinctive linguistic characteristics of Black English that have been isolated. Until these characteristics can be described with confidence as the basic forms to which the teaching of Standard English should be directed, narrowing the important sociolinguistic gap separating speakers of Black English from a "Standard English" society cannot occur.

One of the distinctive morphological traits often described as indicative of Black English is a deletion of the plural inflection on

nouns, resulting in nouns unmarked for plural. That noun plural marker deletion occurs in Black English is so widely reported that it has been used as one of the criteria for identifying and selecting samples of Black children's performances by sociolinguistic "experts" (Natalicio and Williams, 1971). Although many sociolinguists have noted the occurrence of this phenomenon (Bailey, Baratz, Fasold, Johnson, Light, Loban, Malmstrom, Shuy, Stewart, Wolfram), the linguistic conditions associated with and accounting for its occurrence have not been intensively analyzed. In discussing the comments of evaluators concerning deviations in Black language samples relative to Standard American English phonology, Natalicio and Williams (1971) noted that for "/s,z/ . . . Some differences of opinion arose as to the interpretation of such deletions, i.e., were deletions phonological or morphological (inflectional) in nature?" (1971, p. 44). However, no specific theories were presented.

General comments accounting for noun plural marker deletion in Black English have included optional operation of morpheme rules, cluster simplification in the final position, phonological weakening in the final position, and semantic constraints. However, no research studies designed specifically to test the validity of any of the hypotheses accounting for noun plural marker deletion in Black English have appeared.

Literature Describing Noun Plural Marker Deletion in Black English

Of the previously advanced hypotheses attempting to account for noun plural marker deletion in Black English, the ones most often presented have focused on the semantic constraints presented by the presence of a quantifier expression. Specifically they imply that plural marker deletion occurs most often when the noun is preceded by some type of quantifier

expression--a cardinal number, a quantity word, or a plural pronoun. This theory has logical merit when it is seen as a kind of internalized linguistic "anti-redundancy rule" on the part of Black English speakers. William Stewart has stated that because a quantifier word semantically encodes quantification, there is no need, in Black English, to reduplicate the semantic meaning in the noun which the quantifier modifies. Thus:

> . . . grammatical patterns are such that when pluralization is clearly indicated by some other device, e.g., a number word, then there is no need to indicate pluralization again. Consequently the standard English "-s" in "boys" is not obligatory from the point of view of the dialect speakers when following the marker "two" (Stewart, reported by Baratz and Baratz, 1969, p. 14).

Among others identifying the deletion of the noun plural marker as a distinctive characteristic of Black English is Bailey (1969), who reports:

> . . . if the cardinal number is expressed in a noun phrase, then the noun itself need not carry the redundant plural marker, and indeed rarely does. This does not mean, however, that the concept of plural is lacking. On the contrary, we know that it exists, because the aberrant forms like desses for "desks," mens for "men," and wasses for "wasps" are clearly attempts at pluralizing. Indeed, it is not only the cardinal number which may carry the burden of the plural concept, so that we need not be surprised to encounter some book or them boy in which some and them are clearly plural, requiring no reinforcement from an -s suffix in the noun (1969, p. 153).

In accord with Bailey, Baratz (1970b) states, "When you have a numerical quantifier such as 2, 7, 50, etc., you do not have to add the obligatory morphemes for the plural, e.g., 50 cent, 2 foot." (1970b, p. 15)

In the 1971 edition of The English Record Malmstrom asserts that the "absence of s affects the present of verbs and the plural and possessive of nouns" (1971, p. 106) and Johnson reports that in "non-standard Negro dialect, it is unnecessary to put the plural morpheme onto a word if another word in the sentence indicates that the word is plural." (1971, p. 152-3)

Wolfram (1969) finds three environments in Black English in which the plural marker may be deleted from nouns: 1) noun co-occurrence with inherently plural quantifiers, often involving monetary terms; 2) certain types of nouns or changes in noun sub-classes; 3) presence of /n/ in word final position. He concludes that plural formation is a late rule in language acquisition and that it applies after final-consonant cluster simplification. Thus, he can account for some aberrant plural formations such as [dɛSɪZ] for desks. It is interesting that in the same study Wolfram finds that absence of plural Z is not very significant as an indicator of social class speech.

Light (1971) has recently studied the speech of Black children six to eleven years old. He varied the settings of conversations with the children and had adults of different races conduct these conversations. He found that 7 percent of the potential noun plurals were unmarked, and of the 7 percent, 1 percent were "potentially non-redundant," i.e., 1 percent of the potential noun plurals did not include a plural suffix and there was no other indication of number in the sentence, so they were ambiguous. As he explains:

> If the noun were marked in the case of this 1% it would not be redundant. Redundant here means that there is some indication of number other than the plural suffix in a noun phrase, e.g., five pencils, some books, etc. (1971, p. 156)

Light also found that both age and the speech situation seemed to affect the presence of the noun plural marker. However, there are some reservations about the conclusions because the frequency of occurrence of potential plurals in the overall speech corpus was quite small.

A recent study by Natalicio and Williams (1971), evaluating the degree to which repetition (sentence imitation) can be used as an assessment technique in language evaluation involved an analysis of tapes of Black and

Mexican-American children responding to a sentence imitation task. The evaluations of Black language samples were made by 15 professionals in the United States whose expertise in the area of child-language and socio-linguistics has been recognized. Criteria for selection of samples of Black children's performances included "noun plural inflection." The reliability of the ratings of the evaluators in judging dominance of Standard American English and Black dialect, Standard American English inflection and production scales, phonology, syntax, and overall comprehension of Standard American English all were greater than .85. Included in each of these categories were observations of plural marker deletion:

> Noun plurals. Deletions were also the principal deviation cited by the evaluators relative to noun plurals. There was also mention made of hyper-plurals, e.g., "feets," and "teefs," used by some children. (1971, p. 46-7)

The evaluators' comments concerning deviations in the Black language sample relative to Standard American English inflections ranked noun plural deletion third (behind third person singular present tense of verb and noun possessive). However, the sentence imitation exemplars did not include quantifiers, although four plural pronoun occurrences ("their") preceded plural nouns. Of these, the sentence, "The children wash their hands" was most often cited by the evaluators as an example of plural marker deletion. The other three sentences including "their" + noun + plural were ranked along with comments on regular noun plural formation.

Frentz (1970) has conducted an experiment to test children's comprehension of Standard and Black English sentences. This test involved identifying differences between singular and plural pictures by responding, "means same," or, "means different," when combinations of sentences in Standard and Black English describing the pictures were read to them. He

found no significant differences in meaning response between dialects, indicating that although third person singular verb markers and noun plural markers are observable grammatical differences in Black English from Standard English, they only represent surface differences and the ability of both Black and white children to recognize these linguistic distinctions is similar. This experiment included no indications of quantification other than verb and noun plural marking.

Although absence of plural marking has thus been established as a characteristic of Black English, this is not to say (as has been pointed out above) that there is no plural marking in Black English. Shuy (1970) states:

> Our experience has shown that a person of school age who is said to have no -s in noun plurals can and will produce an -s on a noun plural somewhere, sometime in the course of his oral language experience. (1970, p. 340)

Kessler (1969) in studying the sociolinguistic correlates of noun plural realization in Black English, including grammatical and phonological constraints, has concluded that the "overt plural markers are clearly a part of the grammatical structure of Black English, showing the same phonologically conditioned variants as Standard English." (1969, p. 23). However, Kessler goes on to add that:

> The absence of an overt plural marker is a socially diagnostic feature of Black English. Sharply stratified, it is a stigmatized feature separating the middle and working classes. Age in co-variation with social class also shows stratification, with children having highest occurrence of plural absence, adults least and adolescents alternating between proximity to adult and children's speech. . . . From the present work no conclusions can be drawn about sex as a correlate of variability. And only from very marginal evidence is there indication the absence of the plural also shows style stratification. (1969, p. 24)

Perhaps the most interesting result of Kessler's work was that comparing the presence of noun plural marking to the absence of noun plural marking in quantifier and non-quantifier environments revealed that the absence of plural

marking was not grammatically conditioned by either quantifier or non-quantifier environment. She was able to use implicational scale analysis to show that social classes are linguistically discriminated by phonological environmental conditions under which the plural suffix can be deleted. As Fasold (1970) has pointed out from Kessler's study:

> The most important environmental factor inhibiting plural deletion is whether the noun base ends in a vowel or a consonant. The second most important constraint is whether or not a word beginning with a consonant follows. The third constraint is whether the non-consonantal environment is a vowel or pause. (1970, p. 558)

Unfortunately Kessler's work was based on a "very limited number of informants" and she felt that "more extensive sampling" and a "detailed study of Black English phonology" would be necessary before conclusive statements could be made concerning noun plural realization in Black English.

Preliminary Study Investigating Conditions for Noun Plural Marker Deletion in Black English

The following major study conducted by this researcher provided the impetus for the thesis research. In an attempt to provide specific data on the relationship of noun plural marker deletion and the presence of a quantifier expression in Black English, as reported by others, this researcher initially studied noun plural formation in the speech of Black children at the first and third grade levels. This study considered the variables of presence and absence of quantifier expression, age, sex, speaking styles, phonologically conditioned Standard American English plural variants (/z/, /s/, /əz/), and phonological environments of the potential noun plural marker. Taped interviews of children from the Black community of Niagra Falls, New York, were conducted in 1968-69 by the National

Speech and Hearing Survey based at Colorado State University (Hull, et. al., 1971). These tapes were made available through the Center for Communication Research at The University of Texas, Austin. Chosen as informants were 40 children, equally divided by sex and grade: 10 female and 10 male first graders and 10 female and 10 male third graders. Each interview was approximately 15 minutes in length and included the following speech styles: 1) Naming (Goldman-Fristoe Test of Articulation); 2) Casual (connected discourse); 3) Sentence Imitation. Plural formation was studied in each of the speech styles, but quantifier expressions preceding potentially plural nouns and the analysis of phonological environments were taken from the Casual speaking style only.

Tabulation of all the potential occurrences of the noun plural marker for each subject, including all speaking styles, accounted for 503 potential noun plural occurrences. Of these, 155 nouns were unmarked, i.e., the plural inflection was not present. Thus, overall, per hundred instances, 30.5 nouns were unmarked for plural and 69.5 were overtly marked for plural. Therefore, it was considered that the speech of Black children in grades one and three definitely exhibited a tendency to delete noun plural markers.

Of the 58 instances of the use of a quantifier expression, 13 were followed by nouns which were unmarked for plural, representing an cverall total of 22 percent for noun plural marker deletion when the noun was preceded by a quantifier expression. There were 148 instances of potentially plural nouns that were preceded by no quantifier expression and 48 of these were unmarked for plural, representing an overall total of 32 percent for noun plural marker deletion when the noun was not preceded by a quantifier expression. These results were in no way supportive of the prediction that in Black English noun plural marker deletion is more likely

to occur when the noun is preceded by a quantifier expression. When these results were broken down into age, sex, and speaking style categories it was revealed that in every instance the frequency occurrence of noun plural marker deletion was slightly greater when there was no quantifier expression present than when there was a quantifier expression present. Therefore, secondary analyses were undertaken to determine if noun plural marker deletion could be associated with other variables, such as phonological environment or speaker.

The results of tabulation by the variables of age and sex indicated that first grade females and both female and male third graders all deleted approximately 33 percent of the noun plural markers, while first grade males deleted only 23 percent of the noun plural markers. This result was considered counter-intuitive and contrary to theory both developmentally and sociolinguistically. It was expected that younger children would delete more often than older children and that if a difference existed between the frequency of noun plural marker deletions by females and males, that the males would delete more often than the females. It was felt that due to the limited number of subjects and occurrences of potentially plural nouns that a sampling error might account for these unexpected results.

An analysis of the data differentiating speaking styles revealed very little difference between frequency of occurrence of noun plural marker deletion and style. The overall totals of noun plural marker deletion were 31 percent for Naming, 29 percent for Casual, and 33 percent for Sentence Imitation. It was expected that the least formal situation, i.e., Casual speaking style, would have a higher incidence of noun plural marker deletion, but this was not borne out by the data. In fact, the overall percentages were so close that it was either indicative of a constant rate of noun

plural marker deletion by Black children, regardless of speaking style, or the fact that this overall interview did not really include variant styles.

Analysis of the total frequency of occurrence of the three phonologically conditioned plural variants--/z/, /s/, /əz/--indicated that the potential occurrence for /z/ was greater than for /əz/, which was greater than for /s/, and likewise the frequency of noun plural marker deletion was greater for /z/ that for /əz/, which was greater than for /s/. Sixteen of the 64 /əz/'s were deleted for a percentage of 25 percent, while 11 of the 63 /s/'s were deleted for a percentage of 17 percent. Of the 376 potential occurrences of /z/, 128 were deleted, giving a 34 percent deletion frequency. There was no reason to expect to find sex or age differences in this category, and none were found. The difference in total distribution of plural variants made it difficult to assign any significance to this data, but it might be noted that not only was the potential occurrence highest for the /z/ plural marker but also the deletion percentage was highest for this variant. Because the plural marker variants are phonologically conditioned in Standard American English it seemed quite plausible that a difference in the frequency of deletion of these variants (as was found) might indicate that phonological constraints on deletion of plural markers existed. A study of this area seemed especially important because the expected association between quantifier expression presence and noun plural marker deletion was not found.

Phonological analysis of the data involved considering the immediate phonological environment of the potential plural marking. A basic categorization was made by contrasting consonants and vowels in the (-1) and (+1) positions.[1] The frequencies of noun plural marker presence and noun plural marker absence on potentially plural noun stems ending in

consonants and potentially plural noun stems ending in vowels (i.e., the (-1) phoneme) were organized in a two by two table. (See Table 1) A chi square test run on these data indicated at a significance level of $p \leq .05$ that the frequencies did not occur by chance--the difference between potentially plural noun stems ending in consonants and those ending in vowels could be associated with noun plural marker deletion. When the (-1) phoneme was a consonant the noun plural marker was more likely to be present and when the (-1) phoneme was a vowel the noun plural marker was more likely to be deleted.

Similarly a chi square test was run on the frequencies of noun plural marker presence and absence when the initial phoneme of the word following the potentially plural noun was a consonant, a vowel, or when a sentence boundary followed the potential plural (i.e., the (+1) phoneme or position). (See Table 2) A significance level of $p \leq .0002$ was established for these frequencies, indicating a high probability that these noun plural marker deletions did not occur by chance--when the (+1) phoneme was a consonant the noun plural marker was more likely to be deleted, and when the (+1) phoneme was a vowel or when the (+1) position was a sentence boundary the noun plural marker was more likely to be present.

Because the original analysis of the data indicated variations in the frequencies that the three phonologically conditioned noun plural marker variants were deleted, it seemed that more specific categorization of the (-1) and (+1) phonemes might be revealing. Additional categorization of the immediate phonological environment of the potential noun plural marker entailed a phonological analysis of the phonetic features of which the (-1) and (+1) phonemes were constructed. The features constituting the phonetic content of Standard American English phonemes were used. These features

Table 1

Frequency of Noun Plural Marker Presence and Absence by (-1) Phoneme and Results of Chi Square Test in Preliminary Study

Actual Frequency

	Plural Marker Present	Plural Marker Absent	Total
(-1) Phoneme = Consonant	109	37	146
(-1) Phoneme = Vowel	36	24	60
Total	145	61	206

Chi Square = 3.708

Probability = .0513

DF = 1

Expected Frequency

	Plural Marker Present	Plural Marker Absent
(-1) Phoneme = Consonant	103	43
(-1) Phoneme = Vowel	42	18

Table 2

Frequency of Noun Plural Marker Presence and Absence by (+1) Position and Results of Chi Square Test in Preliminary Study

Actual Frequency

	Plural Marker Present	Plural Marker Absent	Total
(+1) Phoneme = Consonant	28	29	57
(+1) Phoneme = Vowel	63	22	85
(+1) = Sentence Boundary	54	10	64
Total	145	61	206

Chi Square = 18.941

Probability = .0002

DF = 2

Expected Frequency

	Plural Marker Present	Plural Marker Absent
(+1) Phoneme = Consonant	40	17
(+1) Phoneme = Vowel	60	25
(+1) = Sentence Boundary	45	19

included consonantal, vocalic, anterior, coronal, continuant, strident, voice, and lateral, nasal, high, low, back, and round. This analysis of the feature content of the phonemes led to subdivisions of the phonemes into the following classes: strident fricatives (/z/, /s/, /š/), mellow fricatives (/ð/, /θ/, /v/, /f/), affricates (/ǰ/, /č/), pure stops (/d/, /t/, /b/, /p/, /g/, /k/), glides (/w/, /h/, /y/), liquids (/l/, /r/, /ə/), nasals (/m/, /n/, /ŋ/), and vowels.

The percentage of noun plural marker deletions was found to be relatively high when the (-1) phoneme was a nasal or a vowel or when the (+1) phoneme was a mellow fricative, affricate, or glide.[2] The percentage of noun plural marker deletions was relatively low when the (-1) phoneme was a pure stop or a liquid or when the (+1) phoneme was a pure stop, a vowel, or when the (+1) slot was a sentence boundary. In addition, current phonological theory (Chomsky and Halle, 1968, p. 364-372) would seem to indicate that plural marker deletion would be less likely at a phrase boundary and more likely within an internal sequence. Conditions that appeared to be neutral in their effect on noun plural marker deletion were when the (-1) phoneme was a strident or mellow fricative, an affricate, or a glide or when the (+1) phoneme was a nasal or a liquid. (See Table 3)

This preliminary study indicated that Black English structure definitely includes all three phonologically conditioned Standard American English plural allomorphs and that these are deleted with relatively high frequency (approximately 30 percent of the time). The most logically pleasing and frequently reported theory, associating frequency of noun plural marker deletion and presence of a quantifier expression, was not illustrated by the data in any way; in fact, a closer relation was shown between absence of quantifier expression and frequency of noun plural marker

Table 3

Summary of Detailed Analysis of Phonological Environments of Noun Plural Marker Presence and Absence in Preliminary Study

Environments Associated with High Frequency of Noun Plural Marker Deletion

(-1) phoneme = nasal
(-1) phoneme = vowel
(+1) phoneme = mellow fricative
(+1) phoneme = affricate
(+1) phoneme = glide

Environments Associated with Low Frequency of Noun Plural Marker Deletion

(-1) phoneme = stop
(-1) phoneme = liquid
(+1) phoneme = stop
(+1) phoneme = vowel
(+1) = sentence boundary

Environments with Apparently Neutral Effect on Noun Plural Marker Deletion

(-1) phoneme = fricative
(-1) phoneme = affricate
(-1) phoneme = glide
(+1) phoneme = nasal
(+1) phoneme = liquid

deletion. Efforts to correlate age, differences in sex, and differences of frequency of noun plural marker deletion were not very illuminating. Speaking styles seemed to have little effect on the frequency of noun plural marker deletion. Definite phonological constraints on the frequency of noun plural marker deletion were isolated and analyzed. The findings of this study, however, were based on too little data, especially considering the uneven distribution between total quantifier expression environments and non-quantifier expression environments. It was felt that further studies should be designed that would include a balanced division between quantifier expression environments and phonological environments.

Because the analysis of the data from this study indicated quite specifically that the relationship between the phonological environment and noun plural marker deletion seems significant, because these results deviate from the current theory that noun plural marker deletion in Black English is related to quantifier presence and absence, and because none of the studies cited were specifically designed to elicit an appropriate amount of data on quantifier presence and absence or phonological environments and their respective relationships with noun plural marker usage in Black English, the study reported in the following pages was designed and conducted. Because any age differences in noun plural marker usage would be important in considering the development of teaching materials and techniques, the variable of age was included in the study.

CHAPTER II

PROBLEM AND METHOD

Statement of the Problem

1) Does there exist in Black English a relationship between noun plural marker deletion and presence of quantifier expression, such that when a quantifier expression precedes a noun plural the noun plural marker is more likely to be deleted than if no quantifier expression precedes the plural noun?

2) Are there phonological constraints on the frequency of noun plural marker deletion in Black English, such that the final phoneme of the potentially plural noun stem (the (-1) phoneme) and the initial phoneme of the following word (the (+1) phoneme) act singly or together to influence the deletion of the noun plural marker?

3) Does age have an effect upon the frequency of and conditions for noun plural marker deletion in the speech of Black children?

4) Does the presence or absence of a quantifier expression interact with the phonological environment in some way to influence the deletion of the noun plural marker in Black English?

Method

Subjects

In order to gather data on the conditions under which Black children delete noun plural marking, subjects were chosen from day care centers, day nursery schools, child development centers and playgrounds in a predominantly Black area of Austin, Texas. In an effort to study age

differences in the frequency of plural marker deletion, perhaps reflecting differences brought about by contact with schools, four, five, six and seven year old children were interviewed. These subjects were divided into two basic age groups for the purpose of analysis of the data gathered. The younger group had a mean age of 5 years 2 months and ranged from 4 years 9 months to 5 years 6 months. The older group had a mean age of 6 years 7 months and ranged from 6 years 0 months to 7 years 8 months. These groups will henceforth be referred to as the 4-5 year old age group and the 6-7 year old age group.

For purposes of obtaining an adequate sample for statistical analysis of the data, 16 subjects from each of the two basic age groups were tested, making a total of 32 test subjects. Approximately equal numbers of each sex were included in each sample, although no attempt was made to compare the performances of the males and females.

Materials

The subjects were selected on the basis of their performance on a brief pre-test involving imitation of one Standard English sentence and one Nonstandard English sentence in Black English dialect. If the subject imitated the Standard English sentence exactly and changed the Black English features of the Nonstandard English sentence to Standard English features, then he was not included as a test subject. It was considered that in this speech situation he would not be considered a speaker of Black English. If the subject imitated both Standard English and Nonstandard English sentences exactly, or if he changed some of the Standard English features to features that were considered characteristic of Nonstandard English, he was accepted as a test subject. Although this is certainly a very minimal screening test to identify speakers of Black English, it seemed to be all that was

possible or necessary for this type of study. In addition, it provided a practice situation for the subjects and served to explain what tasks were required of them. (See Appendix 1 for pre-test sentence exemplars.)

Two tests were constructed to be used as a sentence imitation test on the basis of the observations of phonological environments associated with noun plural marker presence and absence made in the preliminary study, phonological theory, and the hypotheses cited by other researchers in Black English. Each test was composed of forty sentence exemplars and each sentence contained a noun plural in a specific phonological environment. The sentences were in Standard American English. The two tests, designated Test A and Test B, were designed as matched tests.

The phonological environments for the noun plural markers in the sentences were constructed to produce as many combinations of high or low probability environments as possible. Phonological environments designated as being of high probability for noun plural marker deletion were: (-1) phoneme = nasal, (-1) phoneme = vowel, (+1) phoneme = mellow fricative, (+1) phoneme = affricate, (+1) phoneme = glide. Phonological environments designated as being of low probability for noun plural marker deletion were: (-1) phoneme = stop, (-1) phoneme = liquid, (+1) phoneme = stop, (+1) phoneme = vowel, (+1) slot = sentence boundary. Phonological environments that were considered to be neutral in their effect on noun plural marker deletion were: (-1) phoneme = mellow fricative, (+1) phoneme = nasal, (+1) phoneme = liquid. In the sentences designed to be of high probability phonological environment, a (-1) high probability phoneme was combined with a (+1) high or neutral probability phoneme, or vice versa. In sentences designed to be of low probability phonological environment, a (-1) low probability phoneme was combined with a (+1) low or neutral probability

phoneme, or vice versa. Because the analysis of the data from the preliminary study indicated only slightly that when the (+1) slot was a sentence boundary the probability of noun plural marker deletion was low, and although phonological theory (Chomsky and Halle 1968) would seem to predict that such a situation would be conducive to plural marker deletion, one contrast situation was included in the sentence imitation test. Counted both as low probability sentences were a sentence with a (-1) phoneme = nasal /m/ and a (+1) = sentence boundary and a sentence with a (-1) phoneme = stop /p/ and a (+1) = sentence boundary. Although for the overall analysis these were both considered to be of low probability for noun plural marker deletion, it was hoped that a detailed analysis would reveal a difference between frequency of noun plural marker deletion in the two situations.

In each test, twenty of the sentences had quantifier expressions in conjunction with the noun plural and twenty of the sentences had the noun plurals without quantifier modification. Ten of the sentences with quantifier expression had phonological environments (i.e., (-1) and (+1) phonemes) for the noun plural marker that were considered to be of high probability for noun plural marker deletion in Black English. Ten of the sentences with no quantifier expression present were composed of exactly the same phonological environment for high probability of noun plural marker deletion as the ten sentences with quantifier expressions present. The remaining twenty sentences were similarly divided into ten sentences with quantifier expression present and with phonological environments deemed to be of low probability for noun plural marker deletion, and ten sentences with no quantifier expression present that included exactly the same low probability of noun plural marker deletion phonological environments for the noun plural marker. Thus four conditions for noun plural marker presence or absence were established:

1) phonological environment predicted for high frequency of deletion with quantifier present (HiQ), e.g., "Some farms have horses and some have cows;" 2) phonological environment for predicted high frequency of deletion with no quantifier (Hi$\overline{Q}$), e.g., "The shoes just don't fit the boy;" 3) phonological environment for predicted low frequency of deletion with quantifier present (LoQ), e.g., "There are three big bags on the floor;" 4) phonological environment for predicted low frequency of deletion with no quantifier (Lo$\overline{Q}$), e.g., "Rabbits eat food very quickly."

Each set of ten sentences included one sentence with seven syllables, four sentences with eight syllables, four sentences with nine syllables, and one sentence with ten syllables. These numbers of syllables were determined as optimal for sentence imitation by children of this age group on the basis of the work done by Natalicio and Williams (1971) and a pilot study involving sentence imitation with children of the same age groups. Each set of ten sentences with quantifier expressions present included five sentences with cardinal numbers as the quantifier expression and five sentences with non-numeral quantifier expressions (e.g., some, many, these). The cases of noun plural were all regularly pluralized nouns and included no normally plural form class words (e.g., movies, pajamas, sometimes, scissors) which may have affected the results of other studies. The forty test sentence exemplars of Test A and the forty test sentence exemplars of Test B were arranged randomly using a table of random numbers.

The sentences of Test A were identical to the sentences of Test B, except that the twenty sentences with quantifier expressions present in Test A had no quantifier expression in Test B, and the twenty sentences without quantifier expression in Test A had quantifier expressions present in Test B. In other words, the quantifier-non-quantifier situations were

switched between tests while using the same sentences. This was done in order to offset any proclivity of the subjects to imitate depending on the content of the sentences, despite the fact that the immediate phonological environment of the noun plural marker was always matched identically between the quantifier-non-quantifier environments. Half of the children from each age group were given Test A and half of the children from each age group were given Test B. (See Appendix 2 for a list of the test sentence exemplars for Tests A and B.)

Sentence imitation tests have been widely accepted and used by researchers studying child language (Brown and Fraser 1964, Slobin 1967, Menyuk 1968). Elicited sentence imitation is considered to be a basic research procedure to be used in studying linguistic development (Slobin 1967, p. 22-26). Slobin and Welsh (1968) state that

> . . . sentence recognition and imitation are filtered through the individual's productive linguistic system. . . . A fine-grained analysis of repeated imitations of systematically varied model sentences can reveal aspects of the child's theory of syntax, including transformational rules and the syntactic and semantic markers borne by lexical items . . . elicited imitation is a useful probe for revealing linguistic competence. (1968, p. 17-18)

The utility of sentence imitation as an assessment technique for oral language studies of both Black and Mexican-American children has been documented by the recent research of Natalicio and Williams (1971), described above.

In addition, Baratz (1970b) has illustrated that when Black children who speak Nonstandard English are asked to repeat sentences in Standard English, they instead give the Nonstandard equivalent.

Thus, sentence imitation was considered to be the best instrument for studying the occurrence and frequency of noun plural marker deletion in the speech of Black children. 27

Procedures

The two pre-test sentence exemplars and the forty test sentence exemplars (of either Test A or Test B) were read to each subject by a young Black female fieldworker who was raised, educated and currently living in the same area of the city as the subjects. The fieldworker asked each child to repeat the sentence after hearing it once. The principal investigator recorded the proceedings on tape and kept a tabulation sheet of each subject's responses, noting whether the noun plural marker was present or absent for each sentence. (See Appendix 3 for an example of the tabulation sheet.)

It was felt that the Black fieldworker administering the test and dealing with the children would serve to create a less formal situation for the subjects than if the white fieldworker led the testing. This was done in an effort to gather data reflecting the casual speech situation and language production of the children, rather than the formal speech situation. However, it is recognized that this speech situation certainly is not informal or intimate.

The fact that the sentences were read rather than recorded on tape provided for a less controlled experimental situation. However, a pilot study using taped sentence exemplars was not effective because the subjects did not respond to the taped sentence stimulus, although they had no difficulty in responding to the sentence stimulus when it was read to them by the Black fieldworker. The fieldworker was careful to read each sentence exemplar exactly and especially to include the noun plural marking in each sentence. The sentence stimulus as well as the response were recorded on tape, and a review of this tape indicated that the fieldworker did pronounce the noun plural markers in each sentence presented for imitation.

CHAPTER III

RESULTS AND DISCUSSION

Summary

In order to study the conditions under which Black children delete noun plural markers, 32 Black children, ages four through seven years, were given a sentence imitation test consisting of 40 sentences. The test contained four types of sentences containing noun plurals: 1) phonological environment of the noun plural marker considered to be of high probability for deletion with a quantifier present; 2) phonological environment of the noun plural marker considered to be of high probability for deletion with no quantifier expression present; 3) phonological environment of the noun plural marker considered to be of low probability for deletion with a quantifier present; and 4) phonological environment of the noun plural marker considered to be of low probability for deletion with no quantifier expression present.

Analyses

Results for each subject were compiled by reviewing the tape of the subjects' responses, comparing that with the tabulation sheet completed for each subject at the time of the interview, and deciding for each sentence if the noun plural marker was deleted. On this basis, every subject was given four scores, each of which ranged from 0 to 10. Each score indicated how many noun plural markers were deleted in each of the four conditions established for studying noun plural marker presence or absence (i.e., HiQ, Hi$\overline{Q}$, LoQ, Lo$\overline{Q}$). Basic statistical analysis of the data was by factorial analysis of variance of the dimensions of quantifier presence, phonological

environment, and age. The dependent variable was the incidence of noun plural marker deletion. Differences having a probability of chance occurrence of less than .05 were interpreted as statistically significant. The results of the analysis of variance are summarized in Table 4. The mean scores to be used in answering the questions on which this study focused are in Table 5.

Results

Quantifier Condition

Question (1) Does there exist in Black English a relationship between noun plural marker deletion and presence of quantifier expression, such that when a quantifier expression precedes a noun plural the noun plural marker is more likely to be deleted than if no quantifier expression precedes the plural noun?

The answer to Question (1) is that the analysis of variance, as shown in Table 4, indicated the lack of a significant effect on noun plural marker deletion due to the presence or absence of a quantifier expression. The overall mean number of noun plural marker deletions in sentences with a quantifier expression present was 5.0 deletions in each set of ten sentences, and the overall mean number of deletions in sentences with the quantifier expression absent was 5.1 deletions in each set of ten sentences, as illustrated in Table 5. This result indicates that the presence or absence of a quantifier expression was not associated with noun plural marker deletion in the Black English used by the children in this study.

Phonological Environment

Question (2) Are there phonological constraints on the frequency of noun plural marker deletion in Black English, such that the final phoneme

Table 4

Summary of the Analysis of Variance of the Results

Source	M.S.	D.F.	F-Ratio	P
Total	5.250	127		
Between	8.857	31		
Age	103.320	1	18.1016	.0004 *
(E)	5.708	30		
Within	4.086	96		
Phonological Environment	202.508	1	60.3844	.0000 *
Age by Phon. Environment	.633	1	.1887	.6707
(E)	3.354	30		
Quantifier Condition	.945	1	.6313	.5612
Age by Quant. Condition	4.883	1	3.2609	.0776
(E)	1.497	30		
Phon. Envir. by Quant. Cond.	.633	1	.5124	.5137
Age by Phon. Envir. by Quant. Cond.	.070	1	.0569	.8079
(E)	1.235	30		

*Statistically significant ($p < .01$)

Table 5

Mean Number of Noun Plural Marker Deletions Per 10 Sentences

	Phonological Environment						
	High Probability		Low Probability				
	Quantifier Present	Quantifier Absent	Quantifier Present	Quantifier Absent	Avg. for Age	Avg. for Quant.Pres.	Avg. for Quant.Abs.
4-5 years	6.9	7.3	4.4	5.1	5.9	5.7	6.2
	7.1		4.8				
6-7 years	5.6	5.3	2.9	2.8	4.1	4.2	4.0
	5.5		2.8				
Total	6.3	6.3	3.6	3.9		5.0	5.1
	6.3		3.8				
							5.0

of the potentially plural noun stem ((-1) phoneme) and the initial phoneme of the following word ((+1) phoneme) act singly or together to influence the deletion of the noun plural marker?

The answer to Question (2) is that an analysis of variance, as shown in Table 4, indicated that the phonological environment was a significant factor in influencing noun plural marker deletion in these samples of Black English. The mean number of deletions in phonological environments considered to be of high probability for noun plural marker deletion was 6.3 deletions out of each group of ten sentences, and the mean number of deletions in phonological environments considered to be of low probability for noun plural marker deletion was 3.8 deletions out of each group of ten sentences, as illustrated in Table 5. This result indicates that the phonological environment of the noun plural marker did significantly influence noun plural marker deletion. More specifically it showed overall that when the (-1) phoneme was a nasal or vowel and when the (+1) phoneme was a mellow fricative, affricate, or glide the noun plural marker was more likely to be deleted. When the (-1) phoneme was a stop or a liquid and when the (+1) phoneme was a stop or a vowel, or when the (+1) position was a sentence boundary the noun plural marker was less likely to be deleted. This was true for both age groups.

Age

Question (3). Does age have an effect upon the frequency of and conditions for noun plural marker deletion in the speech of Black children?

The answer to Question (3) is that an analysis of variance, as shown in Table 4, revealed that age significantly affected the frequency of noun plural marker deletion in the speech of the Black children. The mean

number of deletions for the 4-5 year old groups was 5.9 deletions out of each group of ten sentences, while the mean number of deletions for the 6-7 year old group was only 4.1 deletions out of each group of ten sentences, as illustrated in Table 5. This finding indicates that younger Black children deleted noun plural markers significantly more frequently than did older children. Further, the analysis of variance, as shown in Table 4, did not reveal a significant interaction between either the age groups and the quantifier conditions or the age groups and the phonological environments. Overall there was little difference between the frequencies of noun plural marker deletions in both quantifier presence and absence conditions for the 6-7 year old age group, while there was a slightly greater frequency of noun plural marker deletion for the 4-5 year old age group in the quantifier absence condition than in the quantifier presence condition. In both conditions the younger subjects deleted more often than the older subjects, as illustrated in Table 5. For both age groups there were significantly more deletions in the phonological environments predicted for high frequency of deletion than in the phonological environments predicted for low frequency of deletion, and in both phonological environments there were significantly more deletions by the 4-5 year old age group than for the 6-7 year old age group, as shown in Table 5.

Quantifier Condition-
Phonological Environment Interaction

Question (4) Does the presence or absence of a quantifier expression interact with the phonological environment in some way to influence the deletion of the noun plural marker in Black English?

The answer to Question (4) is that an analysis of variance, as shown in Table 4, revealed that there were no significant interaction

effects between these two variables. Table 5 illustrates that in every situation the mean number of deletions in the high probability phonological environments was greater than in the low probability phonological environments, and that in every situation the difference between the mean number of deletions in quantifier presence and quantifier absence conditions was less than one. This result indicates that the presence or absence of a quantifier expression did not interact with the phonological environment in any way to influence the deletion of the noun plural marker in the Black English used by these children.

Secondary Analysis of Quantifier Condition

A secondary analysis of the results within the quantifier expression presence condition was made to determine if the frequencies of noun plural marker deletions varied between the sentences in which the quantifier expression was a cardinal number and the sentences in which the quantifier expression was a non-numeral quantifier (e.g., some, many, these). It was found that of the 321 sentence repetitions in which a quantifier expression was present and the noun plural marker deleted, 161 sentences had cardinal numbers as the quantifier expression and 160 sentences had non-numeral quantifiers, indicating no difference between the types of quantifiers used and their association with noun plural marker deletion.

Secondary Analysis of Phonological Environments

A hierarchical summary of the percentage of noun plural marker deletions associated with each specific phonological environment is made in Table 6.

Table 6

Summary of Percentage of Noun Plural Marker Deletions in Specific (-1) and (+1) Phonological Environments

Phonological Environments of Low Probability for Noun Plural Marker Deletion	Phonological Environments of High Probability for Noun Plural Marker Deletion
(+1) = vowel.....27% (/ə/, /ɔ/, /i/)	(+1) = mellow fricative.....53% (/f/)
(-1) = voiced stop.....30% (/b/, /d/, /g/)	(+1) = glide.....55% (/h/)
(-1) = unvoiced stop and (+1) = sentence boundary.....31% (/p/-#)	(-1) = vowel.....58% (/e/, /ə/, /u/)
(-1) = unvoiced stop.....34% (/p/, /t/)	(-1) = /l/.....61% *
(-1) = /ɚ/.....42%	(-1) = /m/.....61%
(+1) = unvoiced stop.....42% (/k/, /p/)	(-1) = /n/, /ŋ/.....64%
(+1) = voiced stop.....43% (/b/)	(+1) = affricate.....72% (/č/, /ǰ/)
(-1) = nasal and (+1) = sentence boundary.....50% (/m/-#)	(+1) = mellow fricative.....75% (/š/)

*not predicted as falling in "High Probability" category

A detailed analysis of the exact phonological environment in which the noun plural marker was deleted was made to determine what specific phonemes were associated with what frequencies of deletion. Of the (-1) phonemes, the following results were determined: 1) whether the (-1) phoneme was /n/, /ŋ/, /m/, or any vowel the percentage of deletions was approximately 61 percent; 2) whether the (-1) phoneme was a voiced or an unvoiced stop the percentage of deletions was approximately 32 percent; 3) if the (-1) phoneme was an /ɚ/ the percentage of deletions was approximately 42 percent, whereas if the (-1) phoneme was an /l/ the percentage of deletions was approximately 61 percent. These findings are compatible with the phonological environments predicted for high and low probability of noun plural marker deletion, except for the liquids. It was expected that when the (-1) phoneme was a liquid the probability of noun plural marker deletion would be low. Instead the data indicate that liquids can be separated into two categories: 1) /ɚ/ which seems to fall somewhere on the upper end of low probability of noun plural marker deletion and 2) /l/ which seems to fall definitely into the high probability of noun plural marker deletion category.

The occurrence of this difference in frequency of noun plural marker deletion between (-1) = /ɚ/ and (-1) = /l/ may be related to the widely reported theory that in Black English /ɚ/ is characteristically deleted, especially in post-vocalic and final positions (Labov 1966, Wolfram 1969, 1970). However, /l/ is also often deleted in final position by speakers of Black English (Natalicio and Williams 1971, Williams, Cairns, and Cairns 1971b), although perhaps not as frequently as /ɚ/. This difference in frequency of deletion, however, may be even more reflective of a phonetic feature difference for specific phonemes between Standard

American English and Black English, or perhaps a phonemic inventory difference. Although the liquids /ɹ/ and /l/ differ in only one phonetic feature in Standard American English (lateral), they may not share as many phonetic features in Black English. This difference in frequency of deletion certainly emphasizes the fact that Black English phonology must be examined and analyzed to determine what differences exist between it and Standard American English. Then studies of Black English, based on Black English phonology, can be conducted.

Of the (+1) phonemes, the following results were indicated: 1) when the (+1) phoneme was the mellow fricative /f/ the percentage of noun plural marker deletions was approximately 53 percent, but when the (+1) phoneme was the mellow fricative /ʒ/ the percentage of noun plural marker deletions was approximately 75 percent; 2) when the (+1) phoneme was an affricate the percentage of deletions was approximately 72 percent; 3) if the (+1) phoneme was a glide the percentage of noun plural marker deletions was approximately 55 percent; 4) whether the (+1) phoneme was a voiced or unvoiced stop the percentage of deletions was approximately 42 percent; 5) if the (+1) phoneme was any vowel the percentage of deletions was approximately 27 percent; 6) when the (+1) slot was a sentence boundary and the (-1) phoneme was a stop the percentage of deletions was approximately 31 percent, but when the (+1) slot was a sentence boundary and the (-1) phoneme was a nasal the percentage of noun plural marker deletions was approximately 50 percent. Again, these findings are generally compatible with the phonological environments predicted for high and low probability of noun plural marker deletion, except for the mellow fricatives.

This difference in frequency of noun plural marker deletion when the (+1) phoneme was a mellow fricative was quite unexpected. Because /d/

is often substituted for /ʃ/ in initial position both in Black English and by younger children (Wolfram 1969; Labov 1970; Williams, Cairns, and Cairns 1971b) it might be expected that the plural marker deletion rate when (+1) = /ʃ/ would be lower than when (+1) = /f/ (because deletion occurred less often when (+1) = stop). However, an opposite situation occurred. In Standard American English the phonemes /f/ and /ʃ/ have two differences in feature content (coronal and voice). The difference in frequency of noun plural marker deletions that occurred may be reflective of an ever greater difference in feature content between /f/ and /ʃ/ in Black English.

Another discovery of these detailed analyses was that when the (-1) phoneme was a stop and when the (-1) phoneme was a nasal and when, in both cases, the (+1) slot was a sentence boundary the percentage of noun plural marker deletions varied. Possible interaction between phonological elements and boundary presence was indicated by the fact that when the (-1) phoneme was a nasal and the (+1) slot a boundary the percentage of noun plural marker deletions fell in between the high frequency of deletion when the (-1) phoneme was a nasal and the (+1) slot something other than a boundary and the low frequency of deletion when the (-1) phoneme was something other than a nasal and the (+1) slot was a boundary. At any rate this result reinforces the theory that noun plural marker deletion is relatively high when the (-1) phoneme is a nasal, no matter what the (+1) phoneme is.

The percentage of noun plural marker deletions associated with each of these specific phonological environments seemed to be completely unaffected by the presence or absence of a quantifier expression in every case.

A more precise characterization of the results of these detailed analyses of the phonological environments associated with noun plural marker presence and absence in the Black English of this study might be as follows:

$$X + \begin{Bmatrix} \text{stop} \\ /\text{ð}/ \end{Bmatrix} + \text{Plural} + \begin{Bmatrix} \text{vowel} \\ \text{stop} \\ \# \end{Bmatrix} + Y \longrightarrow$$

$$X + \begin{Bmatrix} \text{stop} \\ /\text{ð}/ \end{Bmatrix} + \begin{Bmatrix} /\text{s}/ \\ /\text{z}/ \end{Bmatrix} + \begin{Bmatrix} \text{vowel} \\ \text{stop} \\ \# \end{Bmatrix} + Y$$

and

$$X + \begin{Bmatrix} \text{nasal} \\ \text{vowel} \\ /\text{l}/ \end{Bmatrix} + \text{Plural} + \begin{Bmatrix} \text{glide} \\ \text{affricate} \\ \text{mellow fricative} \end{Bmatrix} + Y \longrightarrow$$

$$X + \begin{Bmatrix} \text{nasal} \\ \text{vowel} \\ /\text{l}/ \end{Bmatrix} + \emptyset + \begin{Bmatrix} \text{glide} \\ \text{affricate} \\ \text{mellow fricative} \end{Bmatrix} + Y$$

Discussion

In terms of answering the questions on which this study was based, analysis of the data indicated rather convincingly that there are phonological rather than semantic constraints on the frequency of noun plural marker deletion in Black English. That is to say, some specific phonological categories of the final phoneme of the potentially plural noun stem ((-1) phoneme) and the initial phoneme of the following word ((+1) phoneme) seem to be conducive to noun plural marker deletion, and similarly some (-1) and (+1) phonemes seem to inhibit noun plural marker deletion in Black English. Analysis of the data also indicated that no relationship exists between noun plural marker deletion and the presence of a quantifier

expression, thus throwing suspicion on the theory that noun plural marker deletion in Black English can be accounted for by an "anti-redundancy" rule. There was no evidence in the data that noun plural marker deletion in Black English can be associated with interaction between the quantifier condition and the phonological environment. There was significant evidence that in speaking Black English younger children delete the noun plural marker more often in both quantifier conditions and in all phonological environments than do older children. However, it was obvious that for both age groups a noun plural marker definitely is a functional part of the grammar. It was equally obvious that both age groups deleted the noun plural marker often enough to warrant research into the linguistic conditions which are associated with noun plural marker deletion.

Overall the test situation utilized in this study seemed quite satisfactory for the limited purpose of gathering data on the conditions of noun plural marker deletion in Black English. There were minimal differences in the totals of deletions in each category between Test A and Test B. This indicates that the children did not seem to be affected in any way by the semantic content of the sentences. The pre-test served to eliminate only three potential subjects. Two of these were eliminated because they changed the Nonstandard features to Standard English features when asked to repeat the sentence presented in Nonstandard English. One subject was eliminated from the study because she could or would not perform the sentence imitation task.

The number of noun plural marker deletions in this study was extraordinarily high. This is at least partially explained by the fact that the sentences were of such a length that the children seemed to have difficulty in repeating the whole sentence and there were a great many

deletions of all types. The fieldworker often had to present the stimulus sentence several times before the child could repeat it. Most children, especially the younger ones, often deleted other inflections besides the noun plural markers. Also frequently deleted were articles and adjectives or adverbs. Counted as deletions were those instances when the child did not say the potentially plural noun at all. The incidence of this phenomenon was not statistically important because it seemed to be totally random, i.e., in no specific sentence did children frequently omit saying the target word, and the situation did not occur often.[3] The fieldworker attempted to elicit the potentially plural noun in each sentence with great care.

It is interesting that in no one sentence did all the subjects delete the noun plural marker and in no one sentence did all the subjects include the noun plural marker. The sentence in which the noun plural marker was most often deleted was: "With the helpful clues John won the game."[4] The sentence in which the fewest noun plural marker deletions occurred was: "There are big brown bags on the floor."

In this study no real distinction could be made a priori between the importance of the (-1) phoneme and the importance of the (+1) phoneme in their respective associations with noun plural marker deletion. To devise a study in which every phoneme was presented in a mutually exclusive environment was not feasible in a sentence imitation situation where a limited number of children were expected to repeat a limited number of sentences. Further studies, however, should ideally include a method of separating the (-1) phoneme from the (+1) phoneme so that the influence of each on noun plural marker deletion can be observed.

The percentages found in the analysis of the specific phonemes associated with noun plural marker deletion (see Table 6) indicate convincingly that when the (+1) phoneme is a vowel or when the (-1) phoneme is a stop, deletion is relatively low; and when the (+1) phoneme is a mellow fricative or an affricate or when the (-1) phoneme is a vowel, nasal, or /l/, deletion is relatively high. However, the other phonemes seem to lie somewhere in between high and low categories, and the data have no way of showing what the effect of these phonemes was in relation to noun plural marker deletion or in their combination with the phonemes rather definitely associated with high or low frequency of deletion.

Directions for Further Study

One of the underlying factors motivating this study was the fact that a number of Standard English "s" inflections are frequently cited as being deleted in Black English. In Detroit, Walter A. Wolfram (1970) in covering his study of grammatical variables in Detroit Negro speech stated that these included the following variables:

> . . . suffixal -Z, including third person singular concord (e.g., he goes), possessive marker (John's hat), and certain plural constructions (e.g., five cents)--the variants are simply the presence or absence of -Z. (1970, p. 252)

The Natalicio and Williams (1971) study showed that deletion of /s/ and /z/ was used in many different categories by current sociolinguists as they evaluated and identified Black English characteristics, with a high degree of agreement between evaluators as to the occurrence and deletion of these phonemes. It seems plausible that there exists some relation between the factors associated with all of the phonologically similar deletions reported for Black English. It is strange to account for one of these types of deletions on the basis of semantics without even considering the conditions

associated with the widespread deletion of the others. Because this study has indicated that the phonological environment is important in its association with noun plural marker deletion it is most important that the phonological conditions under which the other "s" inflection deletions occur be examined in order to determine if these, too, can be associated with certain phonological environments.

Phonological theory must be more completely examined in order to attempt to account for the reasons why certain phonological environments are associated with noun plural marker deletion. In addition, phonemes beyond the (-1) and (+1) slots should be considered. The role that interaction of phonological elements play in their association with noun plural marker deletion must be considered. Also a spectrographic analysis of the sentences produced by the subjects might be made in order to determine if some type of sibilant not recognized as a Standard American English sound is replacing one of the three phonologically conditioned variants that are recognized as Standard American English noun plural markers.

Williams, Cairns, and Cairns (1971b) have found that markedness theory is useful in accounting for some phonetic substitutions in Black English, as it differs from Standard American English.[5] By assigning a markedness value (M) to a phonetic feature, articulatory or perceptual complexity may be reflected. Thus, "the relative complexity of phonemes can be determined by comparing the number of M assignments of each, so that a phoneme with more Ms is more complex than one with fewer Ms." (1971b, p. 200) The deletion of the noun plural marker in Black English might be accounted for by examining the relative phonetic feature complexity of the phonemes immediately preceding and following the noun plural marker (i.e., the (-1) and (+1) positions). It might be expected that a higher

frequency of deletion could be associated with more complex (or marked) phonemes in the (-1) and (+1) positions. This type of study might also reveal that the relative importance of individual phonetic features in Black English is different from the relative importance of individual phonetic features in Standard American English. As Williams, et. al. (1971b) have pointed out, features that are perceptually distinctive may be more important than features which specify place of articulation, or vice versa.

Before further research is conducted it may be useful to consider the relation between the type of model utilized in this study--a statistical one--and the model more common to linguistic description--a structural (deterministic) one. Levi-Strauss (1963) initially distinguished between mechanical (structural) models and statistical models by stating that mechanical models were appropriate for research analyses in Ethnography and Social Anthropology, while statistical models were only appropriate for History and Sociology analyses. However, as Buchler and Selby (1968) have pointed out, the "criterial attributes that distinguish the two model types lie not at the level of features, but rather are embedded in the transition probabilities." (1968, p. 316) A statistical model is performance oriented and the probabilities are given in percentages because the results generated are only partially predictable. A structural or deterministic model is competence oriented and the transition probabilities are either 100 percent or zero because the results generated are completely predictable. Although the statistical model of behavior used in this study cannot provide 100 percent prediction, its value is in pointing the direction in which to look for the structural features which do. In this study two structural possibilities were considered as determinants of noun plural marker

deletion--quantifier presence and phonological environment. The results strongly indicate that phonological environment, and not quantifier presence, is associated with noun plural marker deletion in Black English. The fact that no specific one of the phonological environments that were isolated determined presence or absence of noun plural marking in a dichotomous fashion suggests subsequent directions for investigation. There are several possibilities which might account for the statistical variation in frequency of noun plural marker deletion that was revealed:

1) Variation might be accounted for in terms of competence and performance differences in Black English, although the model used in this study would seem to indicate that competence and performance are not significant factors in their association with noun plural marker deletion.

2) Stylistic distinctions and social factors, such as the criteria of speech events in Black English, may account for variation. Mitchell-Kernan (1971) and Wolfram (1969) have shown that both stylistic distinctions and social differences do exist in Black English and have correlated them with some distinctive linguistic characteristics of Black English, although not specifically with noun plural marker deletion. However, since there were no variations in participants, definition of setting, or topic in this study, it seems unlikely that stylistic distinctions could account for the variable rates of deletion.

3) Variation might be accounted for by examining the syllabic structure of Black English more closely. The canonical shape of Black English syllables may differ from that of Standard American English syllables in a way which would have an effect on noun plural marker usage.

4) As discussed above, phonetic features of Black English phonemes may be different from those of Standard American English phonemes.

The distinctive features analyzed in this study may not have included those relevant to a study of Black English phonological structure. If this is so, phonemic categories reflecting relevant Black English distinctive features might be expected to be associated with plural marking more in an all or none fashion.

In conclusion, this study was organized to examine a morphological aspect of Black English that appeared to be distinctive, i.e., plural marker realization, but the results have indicated that this distinctive characteristic of Black English may be more adequately accounted for on a phonological level. The most important implications of this type of discovery are that practical applications of this knowledge can be made in developing materials and training teachers to teach speakers of Black English how to use Standard American English as a speech alternative.

CHAPTER IV

SUMMARY

The questions on which this research focused were as follows: 1) Is there a relationship in Black English between noun plural marker deletion and the presence of a quantifier expression? 2) Are there phonological constraints on the frequency of noun plural marker deletion in Black English? 3) Does age have an effect on the frequency of and conditions for noun plural marker deletion in Black English? 4) Does the presence of a quantifier expression interact with the phonological environment to influence noun plural marker deletion in Black English? To answer these questions a sentence imitation test was devised that included equal numbers of sentences with and without quantifier expression in conjunction with a plural noun. Each of these sentences also included phonological environments for the noun plural marker that had been previously established as being either of high probability for noun plural marker deletion or of low probability for noun plural marker deletion. Thirty-two Black children ranging in age from four years to seven years old were given this sentence imitation test. It was found that in this study: 1) there was no relationship established between the frequency of noun plural marker deletion and the presence of a quantifier expression; 2) there were specific phonological constraints on the frequency of noun plural marker deletion, such that certain (-1) phonemes and (+1) phonemes composing the immediate environment of the noun plural marker could be established as being associated with high frequency or low frequency of deletion; 3) Black children in the 4-5 year old age group definitely deleted more noun plural markers in all situations that did the children in the 6-7 year old age group; 4) there was no

evidence of interaction between the phonological environment and the presence of a quantifier expression in influencing noun plural marker deletion.

FOOTNOTES

[1]The (-1) phoneme was designated as that immediately preceding the potential plural marker and the (+1) phoneme was designated as that immediately following the potential plural marker. For example, in the sentence "The names happen to be the same," the "s" inflection on "name" is the potential plural marker, the "m" in "name" is the (-1) phoneme and the "h" in "happen" is the (+1) phoneme. The (+1) position was considered to be a boundary (#) only when no utterance followed the potentially plural noun, i.e., when a sentence boundary followed the potentially plural noun.

[2]Environments including a (+1) phoneme that was a strident fricative (/z/, /s/, /š/) were not included in the analysis because of the difficulty of determining whether the noun plural marker is present or absent when it is followed by another strident fricative.

[3]Of the 1,280 sentences included in the statistical analysis of the study, 18 sentences did not include the potentially plural noun.

[4]This might be accounted for by the fact that "clue" was perhaps an unfamiliar word for some of the younger subjects.

[5]This use of feature systems and the system of marking are derived from R. Jakobson and M. Halle.

APPENDIX 1

SENTENCE EXEMPLARS FOR PRE-TEST

Standard English: Sometimes Tom takes John's two dogs to the park.

Nonstandard English: My two brother always be riding Greg bike.

APPENDIX 2

SENTENCE EXEMPLARS USED IN THE SENTENCE IMITATION TEST

Test A

1. Some farms have horses and some have cows. (HiQ)
2. The wind made the leaves hit the ground. (Hi$\overline{Q}$)
3. There are three big bags on the floor. (LoQ)
4. Rabbits eat food very quickly. (Lo$\overline{Q}$)
5. The boy untied three knots easily. (LoQ)
6. Flower gardens need a lot of water. (Hi$\overline{Q}$)
7. Kids like most bells because they ring loudly. (LoQ)
8. These bannanas have rotten skins. (HiQ)
9. Ice cream cones with two dips please me. (LoQ)
10. With some helpful clues John won the game. (HiQ)
11. Three scared kings jumped on their horses. (HiQ)
12. These papers can be thrown away. (LoQ)
13. The umbrellas have holes in the top. (Hi$\overline{Q}$)
14. Some friends of mine came to visit. (LoQ)
15. The boy led the dogs on a leash. (Lo$\overline{Q}$)
16. My flowers keep getting picked by the kids. (Lo$\overline{Q}$)
17. The moths chewed holes in the curtains. (Hi$\overline{Q}$)
18. Many hats blow off in the wind. (LoQ)
19. The horns just aren't loud enough to hear. (Hi$\overline{Q}$)
20. The cops pushed the car off the street. (Lo$\overline{Q}$)
21. The two thieves hurried out of the house. (HiQ)
22. When kids sleep they have many dreams. # (LoQ)

23. The shoes just don't fit the boy. (Hi$\overline{Q}$)
24. The two toads ran quickly to the creek. (LoQ)
25. The firecrackers blew up with five pops. # (LoQ)
26. Boys like playing on good baseball teams. # (Lo$\overline{Q}$)
27. The fast hotrods raced down the street. (Lo$\overline{Q}$)
28. The angry chickens fought in the yard. (Hi$\overline{Q}$)
29. The girl put her hands upon the desk. (Lo$\overline{Q}$)
30. The names happen to be the same. (Hi$\overline{Q}$)
31. Three bones fell on the clean floor. (HiQ)
32. The cats backed off from the dog. (Lo$\overline{Q}$)
33. Some pens needing ink lay on the table. (HiQ)
34. She likes to drink out of paper cups. # (Lo$\overline{Q}$)
35. The man showed the lambs the way home. (Hi$\overline{Q}$)
36. The blue jays flew over the tall trees. (Hi$\overline{Q}$)
37. For three days Fred had the measles. (HiQ)
38. The girl took her dolls back in the house. (Lo$\overline{Q}$)
39. For nine months children go to school. (HiQ)
40. Both games there on the table are fun. (HiQ)

Test B

1. The wind made three leaves hit the ground. (HiQ)
2. Those moths chewed holes in the curtains. (HiQ)
3. The firecrackers blew up with loud pops. # (Lo$\overline{Q}$)
4. The girl put both hands upon the desk. (LoQ)
5. Three cops pushed the car off the street. (LoQ)
6. Those shoes just don't fit the boy. (HiQ)
7. Good friends of mine came to visit. (Lo$\overline{Q}$)

8. Little hats blow off in the wind. (LoQ̄)
9. For days Fred had the red measles. (HiQ̄)
10. The scared kings jumped on their horses. (HiQ̄)
11. Some horns just aren't loud enough to hear. (HiQ)
12. The bannanas have rotten skins. (HiQ̄)
13. Some names happen to be the same. (HiQ)
14. Many rabbits eat food quickly. (LoQ)
15. With the helpful clues John won the game. (HiQ̄)
16. The boy led two dogs on a leash. (LoQ)
17. Boys like playing on some baseball teams. # (LoQ)
18. Two umbrellas have holes in the top. (HiQ)
19. The boy untied the knots easily. (LoQ̄)
20. Three angry chickens fought in the yard. (HiQ)
21. Those flowers keep getting picked by the kids. (LoQ)
22. There are big brown bags on the floor. (LoQ̄)
23. She likes to drink out of some big cups. # (LoQ)
24. The scared thieves hurried out of the house. (HiQ̄)
25. The papers can be thrown away. (LoQ̄)
26. Many gardens need a lot of water. (HiQ)
27. Ice cream cones with big dips please me. (LoQ̄)
28. For months children go to grade school. (HiQ̄)
29. Two cats backed off from the dog. (LoQ)
30. Two blue jays flew over the tall trees. (HiQ)
31. The games there on the table are fun. (HiQ̄)
32. Two fast hotrods raced down the street. (LoQ)
33. The big toads ran quickly to the creek. (LoQ̄)
34. Most kids like bells because they ring loudly. (LoQ̄)

35. The man showed two lambs the way home. (HiQ)

36. Big farms have horses and sometimes cows. (Hi$\overline{Q}$)

37. The bones fell on the clean floor. (Hi$\overline{Q}$)

38. The girl took two dolls back in the house. (LoQ)

39. The pens needing ink lay on the table. (Hi$\overline{Q}$)

40. When kids sleep they sometimes have dreams. # (Lo$\overline{Q}$)

APPENDIX 3

EXAMPLE OF TABULATION SHEET

Subject No. _____ Name: _____ Sex: _____

School: _____ Birth Date: _____ Test: _____

Pre-test: _____

Plural Marking:

Yes	No	Yes	No	Yes	No
1.		16.		31.	
2.		17.		32.	
3.		18.		33.	
4.		19.		34.	
5.		20.		35.	
6.		21.		36.	
7.		22.		37.	
8.		23.		38.	
9.		24.		39.	
10.		25.		40.	
11.		26.			
12.		27.			
13.		28.			
14.		29.			
15.		30.			
Total HiQ	Total Hi$\overline{Q}$	Total LoQ	Total Lo$\overline{Q}$		

BIBLIOGRAPHY

Bailey, Beryl Loftman. 1969. "Language and Communicative Styles of Afro-American Children in the United States" The Florida FL Reporter, 7(1), 46, 153.

Baratz, Joan C. 1970a. "Should Black Children Learn White Dialect?" Asha, 12(9), 415-417.

Baratz, Joan C. 1970b. "Teaching Reading in an Urban Negro School System" Language and Poverty, Frederick Williams (Ed.). Chicago: Markham Publishing Company, 11-24.

Baratz, Joan C. and Roger W. Shuy (Editors). 1969. Teaching Black Children to Read. Washington, D.C.: Center for Applied Linguistics (Urban Language series, 4).

Baratz, Stephen S. and Joan C. Baratz. 1969. "Negro Ghetto Children and Urban Education: A Cultural Solution" The Florida FL Reporter, 7(1), 13-14, 151.

Brown, Roger and Colin Fraser. 1964. "The Acquisition of Syntax" The Acquisition of Language, Roger Brown and Ursula Bellugi. (Monographs of the Society for Research in Child Development, 29, No. 1), 43-79.

Buchler, Ira R. and Henry A. Selby. 1968. Kinship and Social Organization. New York: Macmillan.

Chomsky, Noam and Morris Halle. 1968. The Sound Pattern of English. New York: Harper and Row.

Fasold, Ralph W. 1970. "Two Models of Socially Significant Linguistic Variation" Language, 46(3), 551-563.

Feigenbaum, Irwin. 1969. "Using Foreign Language Methodology to Teach Standard English: Evaluation and Adaptation" The Florida FL Reporter, 7(1), 116-122, 156-157.

Frentz, Thomas S. 1970. Children's Comprehension of Standard and Black English Sentences. Madison, Wisconsin: University of Wisconsin, Ph.D. dissertation.

Hull, Forrest M., Paul W. Mielke, Jr., Roy J. Timmons, Jack A. Willeford. 1971. "The National Speech and Hearing Survey: Preliminary Results" Asha, 13(9), 501-509.

Johnson, Kenneth R. 1971. "The Influence of Non-Standard Negro Dialect on Reading Achievement" The English Record, 22(4), 148-155.

Kessler, Sister Ann Carolyn. 1969. "Noun Plural Realizations in Black English" Washington, D.C.: Georgetown University, Unpublished term paper.

Kochman, Thomas. 1969. "Culture and Communication: Implications for Black English in the Classroom" The Florida FL Reporter, 7(1), 89-92, 172-174.

Labov, William. 1966. The Social Stratification of English in New York City. Washington, D.C.: Center for Applied Linguistics (Urban Language series, 1).

Labov, William. 1970. The Study of Non-Standard English. Champaign, Illinois: National Council of Teachers of English.

Levi-Strauss, Claude. 1963. Structural Anthropology, translated by Claire Jacobson and Brook Grundfest Schoepf. New York: Basic Books.

Light, Richard L. 1971. "Some Observations Concerning Black Childrens' Conversations" The English Record, 22(4), 155-167.

Loban, Walter. 1968. "Teaching Children Who Speak Social Class Dialects" Elementary English, 45, 592-599, 618.

Malmstrom, Jean. 1971. "Love Me or Leave Me but Don't Waste the Time: Dialects in Today's Schools" The English Record, 22(4), 102-108.

Melmed, Paul Jay. 1971. Black English Phonology: The Question of Reading Interference. Berkeley, California: University of California Language-Behavior Research Laboratory (Monograph, 1).

Menyuk, Paula. 1968. "Children's Learning and Reproduction of Grammatical and Nongrammatical Phonological Sequences" Child Development, 39, 849-859.

Mitchell-Kernan, Claudia. 1971. Language Behavior in a Black Urban Community. Berkeley, California: University of California Language-Behavior Research Laboratory (Monograph, 2).

Natalicio, Diana S. and Frederick Williams. 1971. Repetition As an Oral Language Assessment Technique. Austin, Texas: Center for Communication Research, University of Texas.

Plutchik, Robert. 1968. Foundations of Experimental Research. New York: Harper and Row.

Shuy, Roger W. 1970. "The Sociolinguists and Urban Language Problems" Language and Poverty, Frederick Williams (Ed.). Chicago: Markham Publishing Company, 335-350.

Slobin, Dan I. (Ed.). 1967. A Field Manual for Cross-Cultural Study of the Acquisition of Communicative Competence. Berkeley, California: University of California Language-Behavior Research Laboratory.

Slobin, Dan I. and Charles A. Welsh. 1968. "Elicited Imitations as a Research Tool in Developmental Psycholinguistics" Berkeley, California: University of California Language-Behavior Research Laboratory (Working Paper, 10).

Stewart, William (Ed.). 1964. Non-standard Speech and the Teaching of English. Washington, D.C.: Center for Applied Linguistics.

Williams, Frederick (Ed.), Helen S. Cairns, Charles E. Cairns, and Dennis F. Blosser. 1971a. Analysis of Production Errors in the Phonetic Performance of School-Age Standard-English-Speaking Children. Austin, Texas: Center for Communication Research, University of Texas.

Williams, Frederick (Ed.), Helen S. Cairns, and Charles E. Cairns. 1971b. An Analysis of the Variations from Standard English Pronunciation in the Phonetic Performance of Two Groups of Nonstandard-English-Speaking Children. Austin, Texas: Center for Communication Research, University of Texas.

Williams, Frederick. 1968. Reasoning With Statistics. New York: Holt, Rinehart and Winston, Inc.

Wolfram, Walter A. 1970. "Linguistic Correlates of Social Differences in the Negro Community" Linguistics and the Teaching of Standard English to Speakers of Other Languages or Dialects, James E. Alatis (Ed.). Washington, D.C.: Georgetown University Press (Monograph Series on Languages and Linguistics, 22), 249-257.

Wolfram, Walter A. 1969. A Sociolinguistic Description of Detroit Negro Speech. Washington, D.C.: Center for Applied Linguistics (Urban Language series, 5).